

CORRESPONDENCE.

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Dear Sir,

July 28th, 1925.

Dr. Brownlee's suggestion in the last number of the *EUGENICS REVIEW* prompts me to send you some supplementary considerations which may be of sufficient interest to be included in your next number. He writes:

"Among many of the smaller mammals, there are well-marked variations in the numbers associated with food supply and epidemic disease, but apart from these, great variations in numbers occur at certain times without any apparent cause. . . Parasitic micro-organisms also assume infective and lethal properties at times with very disastrous results; and then, for long periods, seem to lose much of their power. . . . I think man must be subject to the same laws. Take for instance the emigrations of the Norse during the 8th to the 10th centuries. Here ship after ship of emigrants colonised and established Kingdoms in England and in the west of Europe. These emigrations suddenly ceased. It is very difficult to believe that the emigrant period was not a period of high birth-rate. . . ."

I should agree with Dr. Brownlee that, in all probability the birth-rate had been high in Scandinavia for some centuries when the great emigrations occurred, and undoubtedly the high birth-rate was a factor promoting emigration. The purpose of this supplementary note is to try to point out factors of that high birth-rate, to try to show that in this instance at least we have not by any means an increase without apparent cause.

Penck, and, following him, Gams and Nordhagen, and C. E. P. Brooks have all drawn attention, within the last 3 or 4 years, to the regrowth of the glaciers of Europe at the end of the Bronze Age and in the Early Iron Age (9th century B.C.). That this reduced the population of Scandinavia and emptied Switzerland seems clear enough, and by the 5th century B.C. if not earlier, peat bogs had replaced forests in Scandinavia far and wide. Pettersson has claimed to show that with land and sea in their present relation to one another periods of strong tides mean extreme seasons and periods of weaker tides mean more moderate seasons around the Baltic. It can be shown that the 14th and 15th centuries, A.D., were periods of strong tides and the 6th and 7th centuries of our era were periods of weak tides. 350 B.C. was a period of strong and 1200 B.C. a period of weak tides. We know that about 1200-1000 B.C. there was much activity in Scandinavia with spreads to Scotland and Ireland and, we suspect to England and to W. France as well. 350 B.C. is rightly placed to correspond with the greatest extension of peat bogs and an evident reduction of population and general impoverishment. The saga of Eric the Red and other Norse stories tell of voyages to Greenland and to America, and Pettersson argues that these voyages of centuries 6-10 A.D. were obviously not hindered by ice, i.e., it was an age of mild seasons with, consequently, food for Norway, increase of population accustomed by tradition to a law of inheritance and in other ways also trained for adventure and for organisation. So long as they had to do with peoples in a stage of looking "back" at the Roman phase and consequently inapt to strike out to meet new conditions they could do almost as they liked in Western Europe, but the earlier arrivals implanted organisation which resisted subsequent invaders and the attention of the wanderers was turned to Greenland and Wineland (America). The invasions of W. Europe from Scandinavia cease and by the 11th century the period of strong tides is coming on. By the 14th and 15th centuries the people of Norway were reduced to famine conditions. They have recovered bit by bit and have certainly shown remarkable vigour since the end of the 18th century.

Yours sincerely,
H. J. FLEURE,